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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Paper No. 19

Application Number: 09/608,976
Filing Date: June 30, 2000
Appellant(s): BROWN ET AL.

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Technology Center 2100

Sherry Tipton

For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 03/22/2004.

(1)   Real Party in Interest

A statement identifying the real party in interest is contained in the brief.

(2)   Related Appeals and Interferences

A statement identifying the related appeals and interferences which will directly

affect or be directly affected by or have a bearing on the decision in the pending appeal

is contained in the brief.

(3)   Status of Claims

The statement of the status of the claims contained in the brief is correct.

(4)   Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection

contained in the brief is correct.

(5)   Summary of Invention

The summary of invention contained in the Appeal Brief is essentially correct.

The examiner however, would like to point to the following anomalies the

invention summarized in between the Appeal Brief and the invention described in the

instant specification.

For example, at page 2, lines 1-7 of the Appeal Brief which recites: "the

invention relates to a method of presenting an execution plan for a query that includes

determining steps of the query execution plan for a parallel database system, displaying

the steps of the query execution plan in the graphical user interface, and depicting

parallel execution of steps of the query execution plan in the graphical user interface,

where such depicting includes displaying plural elements corresponding to concurrently

executing plural steps on respective processors of the database system (claim 1) See

also, claim 30".

However, at the referred page 5, lines 4-9 of the instant specification states:

"The query execution plans selected by the optimizer 40 can be stored in the
target system 14, with the execution plan accessible by a visual explain and compare
module 42 to graphically depict or display the execution plan...."

Thus, contrary to the claimed invention, the query execution plan being displayed

in the graphical user interface can be stored prior to utilization, which is not necessary

to reflect (or depict) a plurality of elements corresponding to concurrently executing

plural steps on respective processors of the database system.

However, because the metes and bounds of the claimed invention are generally

understood and can be emulated in a test system 10, the examiner has decided the

claims are compliant with 35 U.S.C. § 112, second paragraph.

(6)   Issues

The appellant's statement of the issues in the brief is correct.

(7) Grouping of Claims

The appellant's statement in the brief that certain claims do not stand or fall together is not agreed with because Claims 3, 15, 17, 19 and 34 are dependent claims of their associated base groups which should stand or fall together with their respective base claims. Furthermore, the examiner notices there is a typing error in the phrase "Within each group, the claims stand and all together".

(8) Claims Appealed

The copy of the appealed claims contained in the Appendix to the brief is correct.

(9) Prior Art of Record

5857180	HallMark et al.	1-1999
6434545	MacLeod et al.	8-2002
6289334	Reiner et al.	9-2001
6067542	Carino Jr.	5-2000

(10) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious

at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-6, 9-22, 30, 31 and 34-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hallmark et al. (U.S 5857180) in view of MacLeod et al. (6434545) (MacLeod).

Regarding claims 1, 11 and 30, Hallmark discloses: A method and an article of presenting an execution plan for a query, comprising:

determining steps of the query execution plan in a parallel database system (see Abstract, lines 1-19; col. 8, lines 64 to col. 9, lines 4, Hallmark);

However, Hallmark did not specifically detail the step of depicting and displaying the parallel execution steps. On the other hand, MacLeod discloses: displaying the steps of the query execution plan in a graphical user interface (e.g., col. 8, lines 7-49, Fig.(s), 5-9, MacLeod), depicting parallel execution of steps of the query execution plan in the graphic user interface (e.g., col. 8, lines 29-49, Fig. 6, MacLeod). Thus, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art, to include the steps for displaying the query execution plan of Hallmark's system in parallel as taught by MacLeod. The motivation is to provide a user with a GUI of multiple query execution plans, such that the user can select, compare and optimizing a query in the massively parallel execution system.

Hence the result that Hallmark/Macleod combination system would disclose depicting the parallel execution of steps comprises displaying plural elements corresponding to concurrently executing plural steps on respective processors of the parallel database system (e.g., Fig. 7, col. 9, lines 5-13, MacLeod; col. 6, lines 23-54, Hallmark).

As per claim 2, the limitations of this claim have been noted in the rejection of claim 1 above. In addition, Hallmark/ MacLeod disclose: wherein determining the steps comprises determining steps of the query execution plan in the parallel database system running in a multi-processing platform having plural nodes (col. 6, lines 3 1 -45, Hallmark).

Regarding claim 3, the limitations of this claim have been noted in the rejection of claim 1. Applicant's attention is directed to the rejection of claim I above. In addition, Hallmark/ MacLeod discloses: Wherein determining the steps comprises determining steps of the query execution plan in the parallel database system running in a platform having plural virtual processors to handle access to data in the parallel database system (co. 7, lines 1-19, Hallmark).

Regarding claim 4, the limitations of this claim have been noted in the rejection of claim 1. Applicant's attention is directed to the rejection of claim 1 above. In addition,

Hallmark/ MacLeod disclose: displaying the steps as icons (211, Fig. 6 and

corresponding text, MacLeod.).

As per claim 5, the limitations of this claim have been noted in the rejection of

claim 1. Applicant's attention is directed to the rejection of claim 1 above. In addition,

Hallmark/MacLeod discloses: wherein the database management system is executable

in a platform (see window 200, Fig. 6, and corresponding text, MacLeod); wherein

displaying the icons comprises display one or more of the icons selected from the group

consisting of an icon representing a table (col. 8, lines 7-27, MacLeod), an icon

representing an operation performed on a component of the platform (col. 8, lines 7-27,

MacLeod), an icon representing a query statement (col. 7, lines 49-56, MacLeod), icon

representing an operation performed on two or more tables (col. 8, lines 7-48,

MacLeod).

As per claims 6 and 31, the limitations of these claims have been noted in the

rejection of claims 1 and 30, respectively. In addition, Hallmark/MacLeocl discloses the

steps of the query execution plan are performed by an optimizer (col. 8, lines 38-45,

Hallmark).

As per claim 9, the limitations of this claim have been noted in the rejection of

claim 1. Applicant's attention is directed to the rejection of claim 1 above. In addition,

Carino/MacLeod disclose displaying explain text of the query execution plan (col. 6, lines 55-61, MacLeod).

Regarding claim 10, the limitations of this claim have been noted in the rejection of claim 9. Applicant's attention is directed to the rejection of claim 9 above. In addition, Hallmark/MacLeod disclose: wherein the explain text comprises displaying the explain text in a first screen and wherein displaying the steps of the query execution plan comprises displaying the steps in a second screen (Fig. 5 and corresponding text, MacLeod).

Regarding claim 11 specifically, Hallmark/MaCLeod disclose: a method of testing performance of a query, comprising:

Determining a first execution plan of the query under a first condition and a second execution plan of the query under a second condition (e.g., Fig. 6, MacLeod, col. 6, lines 11 -54, Hallmark); display the first and second execution plans concurrently to enable comparison of the execution plans (e.g., Fig(s). 6-7 and corresponding text, MacLeod).

Regarding claim 12, the limitations of this claim have been noted in the rejection of claim 11. Applicant's attention is directed to the rejection of claim 11 above. In addition, Hallmark/MacLeod disclose: wherein displaying the first and second execution

plans comprises displaying the execution plans in a graphical user interface (Fig. 5 and

Fig. 6 and corresponding text, MacLeod).

Regarding claim 13, the limitations of this claim have been noted in the rejection

of claim 11. Applicant's attention is directed to the rejection of claim I 1 above.

Hallmark/MacLeod disclose: wherein displaying the first and second execution plans

comprises displaying the execution plans in a graphical user interface having a first

screen to display the first execution plan and a second screen to display the second

execution plan (Fig. 5 and Fig. 6 and corresponding text, MacLeod).

As per claim 14, the limitations of this claim have been noted in the rejection of

claim 11. Applicant's attention is directed to the rejection of claim 11 above. In addition,

Hallmark/MacLeod disclose: displaying the first and second execution plans comprises

displaying a collection of icons to represent steps of each of the execution plans (col. 7,

lines 49 to col. 8, lines 51, MacLeod).

As per claim 15, the limitations of this claim have been noted in the rejection of

claim 11. Applicant's attention is directed to the rejection of claim. 11 above. In addition,

Hallmark/MacLeod discloses: a third execution plan of the query under a third condition

(col. 8, lines 57 to col. 9, lines 5, Hallmark) and displaying the first, second and third

execution plans concurrently to enable comparison of the execution plans (Fig. 9 and

corresponding text, MacLeod).

Regarding claims 16-17, the limitations of this claim have been noted in the

rejection of claim 11. Applicant's attention is directed to the rejection of claim 11 above.

In addition, Hallmark/MacLeod discloses: wherein determining the first execution plan

comprises determining an execution plan for the query in cooperation with a first version

of a software module of a parallel database system (col. 16, lines 32-42, Hallmark);

wherein determining the second execution plan comprises determining an execution

plan for the query in cooperation with a second version of a software module of a

parallel database system (col. 16, lines 43-52, Hallmark);

Regarding claims 18-19, the limitations of this claim have been noted in the

rejection of claim 11. Applicant's attention is directed to the rejection of claim 11 above.

In addition, Hallmark/MacLeod discloses: wherein determining the first. execution plan

comprises determining an execution plan for the query in the system having a first

arrangement and the second execution plan comprises determining an execution plan

for the query in a system having a second arrangement (see col. 16, lines 53-61,

Hallmark).

Regarding claim 20, the limitations of this claim have been noted in the rejection

of claim 11. Applicant's attention is directed to the rejection of claim 11 above. In

addition, Hallmark/MacLeod disclose: wherein determining the first execution plan

comprises determining execution plan involving a table having a first content" (e.g., Fig.
7, MacLeod; col. 16, lines 53-61, Hallmark).

Regarding claim 21-22, the limitations of this claim have been noted in the
rejection of claim 11. Applicant's attention is directed to the rejection of claim 11 above.
In addition, Hallmark/MacLeod disclose: wherein determining a second content contains
statistics (e.g. Fig. 6, MacLeod; col. 17, lines 16-23, Hallmark).

Regarding claim 34, the limitations of this claim have been noted in the rejection
of claim 30. In addition, Hallmark/MacLeod disclose: further determine a second
execution plan of the query for the parallel database system (col. 8, lines 57 to col. 9,
lines.5, Hallmark); display the step of the second execution plan concurrently with the
steps of the first execution plan in the graphical user interface (Fig. 5 and Fig. 6 and
corresponding text, MacLeod).

Regarding claim 37, the limitations of this claim have been noted in the rejection
of claim 11. In addition, Hallmark/MacLeod disclose: wherein determining the first and
second execution plans comprises determining the first and second execution plans in
parallel database system environment (col. 6, liens 22-54, Hallmark); and displaying
each of the first and second execution plans comprises displaying plural elements
corresponding to concurrently executing plural steps on respective processors of the
parallel database system environment (Fig. 5 and 6, and corresponding text, MacLeod).

Regarding claims 35, 38 and 40, the limitations of these claims have been noted

in the rejection of claims 1, 37 and 30 above, respectively. In addition,

Hallmark/MacLeod disclose: wherein display the plural elements comprises displaying

the plural elements side-by-side to indicate concurrent execution of the respective steps

(col. 7, lines 49-61, MacLeod).

Regarding claims 36, 39 and 41, the limitations of these claims have been noted

in the rejection of claims 35, 38 and 40 above, respectively. In addition,

Hallmark/MacLeod disclose: further comprising displaying other elements in sequence

with the plural side-by-side elements to indicate sequential execution of other steps

corresponding to the other elements (col. 7, lines 49-61, MacLeod).

Claim Rejections - 35 USC § 103 (Continues)

Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over

MacLeod et al. (U.S 6434545) (MacLeod) in view of Reiner et al. (U.S 6289334)

(Reiner).

Regarding claim 23, MacLeod discloses: a graphic user interface (47, Fig. 1 and

corresponding text, MacLeod); the controller to display a representation of the execution

plan in the graphical user interface (23, Fig. 1 and corresponding text, MacLeod).

However, MacLeod didn't specifically disclose a parallel database system and a

controller to determine an execution plan of a query based on emulation data that

emulates an environment of a target system. On the other hand, Reiner discloses in

which a parallel database system is implemented (col. 30, lines 13-30, Reiner); and a

controller is used to determine an execution plan of a query based on emulation data

that emulates an environment of a target system (col. 31, lines 1-67, Reiner). Thus, at

the time invention was made, it would have been obvious to a person of ordinary skill in

the art to include a controller to determine an execution plan of a query based on

emulation data that emulates an environment in the system of MacLeod as taught by

Reiner. The motivation would have been enable emulation of the target system so as to

run on other system environment as well.   This would have provided the further

advantage of wider use of the Macleod system as well universality, which is much

desired in the art.

Claims 24-27 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable

over MacLeod et al. (U.S 6434545) (MacLeod) in view of Reiner et al. (U.S 6289334)

(Reiner) as applied to claim 23 above, and further in view of Carino Jr (U.S 6067542).

Regarding claims 24-27 and 29, the limitations of this claim have been noted in

the rejection of claim 23. Applicant's attention is directed to the rejection of claim 23

above. However, MacLeod/Reiner does not disclose: wherein the emulation data

comprises cost-related information including a number of nodes in the target system

and number of CPUs in each node. On the other hand, Carino discloses: wherein the

emulation data comprises cost-related information including a number of nodes in the

target system and number of CPUs in each node (see Fig. 4 and corresponding text,

Carino Jr.). Thus, at the time invention was made, it would have been obvious to a

person of ordinary skill in the art to include in the emulation data, cost-related

information, a number of nodes in the target system and number of CPUs in each node.

One of ordinary skill person in the database art would have been motivated to modify

the combination system of MacLeod and Rener to include the cost related information

as taught by Carino Jr. in order to arrive at a system that reveals costs while optimizing

information for the executing of query plans as a highly desirable result.

Regarding claim 25 specifically, the combined system of MacLeod/Refiner/Carino

further discloses: wherein the emulation data comprises cost-related information

including a number of virtual processors running in the target system (col. 13, lines 40-

64, Carino Jr.).

Regarding claim 26 specifically, the combined system of MacLeod/Refiner/

Carino further discloses: " wherein the emulation data comprises cost-related

information relating to costs of doing operations in the target system (see col. 14, lines

61-65, Carino Jr.).

Regarding claim 27 specifically, the combined system of MacLeod/Refiner/Carino

further discloses: wherein the emulation data represents a target system having a multi-

node parallel processing system (see col. 9, lines 7 -14, Carino, Jr.).

Regarding claim 29 specifically, the combined system of MacLeod/Refiner/Carino

further discloses: wherein the emulation data represents a target system running plural

virtual processors for handling access to the parallel database system (see Fig. 4 and

corresponding text, Carino, Jr.).

Claims 7, 8, 32 and 33 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Hallmark et al. (U.S 5857180) (Hallmark) in view of MacLeod et al.

(6434545) (MacLeod) and further in view of Reiner et al. (U.S 6289334) (Reiner).

Regarding claims 7,8, 32 and 33, the limitations of this claim have been noted in

the rejection of claim 6. Applicant's attention is directed to the rejection of claims 6

above. However, Hallmark/MacLeod didn't disclose: the steps of the query execution

plan are performed by the optimizer based on emulated environment data of a target

system, emulated environment data present in a test system, and the target system

comprising the parallel database system. On the other hand, Reiner disclose: wherein

determining the steps of the query execution plan are performed by an optimizer based

on emulated environment data of a target system, emulated environment data present

in a test system, and the target system comprising the parallel database system (col.

31, lines 1-14, Reiner). Thus, at the time invention was made, it would have been

obvious to a person of ordinary skill in the art to include the steps of the query execution

plan being performed by an optimizer based on emulated environment data of a target

system, emulated environment data present in a test system in the combination system

of Hallmark/MacLeod as taught by Reiner. The motivation would have been to enable

the emulation of the target system so that is can run on the other system environments

as well, thereby, increasing the utility of the combined system while simultaneously

universalizing the system.

As per claim 8 specifically, the combination of Hallmark/MacLeod/Reiner further

discloses: the steps of the query execution plan is performed in a test system based on

emulated environment data of a target system that is separate from the test system (col.

31, lines 55-67, Reiner), the target system comprising the parallel database system (col.

31, lines 24-39, Reiner).

Regarding claim 32 specifically, the combination of Hallmark/MaCLcod/Refiner

discloses: wherein the instructions when executed cause the controller to receive

environment information to emulate a target database system (col. 34, lines 30-42,

Reiner).

Regarding claim 33 specifically, the combination of Hallmark/MacLeod/Refiner

discloses: wherein the instructions when executed cause the controller to determine the

execution plan of the query based on the environment information (col. 35, lines 54-60,

Reiner).

(11)   Response to Argument

In appellant's Brief, filed March 22, 2004, Appellant argues the following specific

points in section A:

As to claim 1, appellant argues the following:

1.   "Figures 5 and 6 of MacLeod, which are related to the passages cited by

the examiner, clearly Illustrate the point that MacLeod does not teach or suggest

displaying or depicting parallel execution of plans in a graphical user interface.

2.   "Because neither Hallmark nor MacLeod teaches of suggests either the

displaying or depicting acts recited in claim 1, their hypothetical combination also fails to

disclose or suggest the elements of the claim 1. For at least this reason, a prima facie

obviousness rejection has not been established with respect to claim 1."

In reply to arguments of 1 and 2 above, the Office first points out that one can not

show nonobviousness by attacking references individually. Where the rejections are

based upon the teaching of a combination of references, as it is here, each reference

must be read not in isolation, but for what is fairly teaches in combination with the prior

art as a whole. See *In re Keller, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); In re

Merck & Co., 800 F. 2d 1091, 231 USPQ 375 (Fed. Cir. 1986).* As set forth in the

October17, 2003 Final Office Action, the rejection of claims 1-6, 9-22, 30, 31 and 34-41

was made under 35 U.S.C. § 103(a) as being unpatentable over the combination of Hallmark and MacLeod et al., not MacLeod alone.

Furthermore, as cited in the above paragraphs, Hallmark specifically discloses determining steps of the query execution plan in a parallel database system by way of table query to partition and transport data of rows between set of processes for concurrently executing the query plan in a master/slaves thread environment (see Abstract, lines 1-19; col. 8, lines 64 to col. 9, lines 4, Hallmark), wherein the query plan can be compiled into a row source tree for parallel processing (e.g., Abstract, lines 5-10, col. 5, lines 23-33, Fig. 3A, Hallmark). Hallmark did not specifically teach that the query execution plan is displayed/depicted in a Graphic User Interface (or GUI). However, MacLeod disclosed: displaying the steps of the query execution plan in a graphical user interface (e.g., col. 8, lines 7-49, Fig.(s), 5-9, MacLeod), depicting parallel execution of steps of the query execution plan in the graphic user interface (e.g., col. 8, lines 29-49, Fig. 6, MacLeod). Hence, one of ordinary skill in the art at the time invention was made, would in fact, contrary to applicant's arguments, look to incorporate an interface as taught by MacLeod for displaying and depicting the claimed query execution plan in Hallmark's system. The motivation would have been to provide a user with a GUI of multiple query execution plans, such that the user can select, compare and optimize a query in the massively parallel execution system. In addition, Hallmark/MacLeod disclose: wherein depicting the parallel execution of steps comprises displaying plural elements corresponding to concurrently executing plural steps on respective processors of the parallel database system (e.g., Fig. 7, col. 9, lines 5-13, MacLeod; col. 6, lines 23-

54, Hallmark). As such, the examiner contends that the combination of Hallmark and

MacLeod would be result in a system meeting the claimed invention and having a

reasonable expectation of success.

As to claim 3, Appellant argues the following:

"With respect to claim 3 (which depends from claim 1), the Examiner cited

passage does not (i.e., col. 7, lines 1-19, of Hallmark) refer whatsoever to determining

steps of a query execution plan for a parallel database system having plural virtual

processors."

In reply, the Examiner points out that the cited col. 7, lines 1-19 of Hallmark

specifically discloses that the determining steps of the claimed query execution plan is

performed by the Database Management System (DBMS) wherein the DBMS including

the partitioning processor (or the parser) for parsing the query execution plan are

implemented via software, therefore, the various processors of a DBMS including the

partitioning parser are virtual processors.

As to claim 35, Appellant argues the following:

"Claim 35, which depends from claim 1, further recites that displaying the plural

elements comprises displaying the plural elements side-by-side ...Although the passage

of MacLeod cited by the Examiner (i.e. col. 7, lines 49-61) refers to the display of icons,

such icons do not correspond to concurrently executing plural steps on processors of

parallel database system that are displayed side-by-side."

In reply, the Examiner points out that Appellant's argument is misdirected

because it points to an exception of MacLeod without taking into consideration what the

reference teaches as a whole. More so, the rejection was based on the combination of

Hallmark and MacLeod and not MacLeod alone. The combined system specifically

discloses loop processing to display a unique icon that corresponds to current

operations and branches to parent nodes for each query statement in order to construct

a new tree structure that represents a query execution plan [e.g., col. 7, lines 49-61 of

MacLeod]. Wherein icons are displayed in the loop as shown side-by-side and

connected via branches to form a parent/child hierarchical tree in Fig. 6 of MacLeod.

Furthermore, the query plan execution environment is on processors of parallel

database system [e.g., Abstract, lines 1-19; col. 8, lines 64 to col. 9, lines 4, Hallmark].

Hence, when the GUI of MacLeod is combined with the parallel query processing

system of Hallmark, the expected result would have been side-by-side parallel displays

of the query plan with executions done by Hallmark.

As to claim 34, Appellant argues the following:

"Claim 34, which depends from claim 30, recites the displaying of steps of the

second execution plan concurrently....The Examiner cited to Figures 5 and 6 and

corresponding text of MacLeod as disclosing the displaying act....Neither Figure 5 nor

Figure 6 teaches or even remotely suggests displaying steps of a second execution

plan for a query concurrently with steps of the first execution plan for the same query in

a graphical user interface."

In reply, the Examiner notes that the features upon which applicant relies (i.e.,

the same query in a graphical user interface) are not recited in the rejected claim(s).

Although the claims are interpreted in light of the specification, limitations from the

specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26

USPQ2d 1057 (Fed. Cir. 1993).

As to claim 11, Appellant argues the following:

"Claim 11...In citing MacLeod as disclosing the displaying act, the Examiner

does not address how MacLeod teaches or suggests concurrently displaying first and

second query execution plans of the same query under first and second

conditions...Moreover, Figures 6 and 7 are separate screens show at different times,

and therefore, cannot possibly satisfy the claim element of displaying first and second

execution plans concurrently."

In reply, the Examiner reaffirms that Appellant's argument is unpersuasive

because it attempts to show nonobviousness by attacking a piecemeal passage of

MacLeod where the underlying rejection is based on multiple references of the

combined prior art (i.e. Hallmark and MacLeod) as recited above. In addition, the

examiner notes that the claimed features (e.g., displaying first and second query

execution plans of the same query under first and second conditions) are not recited in

claim 11. Thus, although the claims are interpreted in light of the specification,

limitations from the specification are not read into the claims. See *In re Van Geuns*, 988

F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Furthermore, appellant's attention is

directed to the parent/child source tree structure shown by MacLeod at Figures 6 and 7

as well as the description at col. 6, lines 11-54 disclosed by Hallmark, wherein the tree

structures satisfy the claimed element of displaying first and second execution plans via

the hierarchical structure of the icon-tree [e.g., see col. 11, lines 20-25, MacLeod). In

addition, the citation of col. 6, lines 1-54 of Hallmark further describes how the

combined system uses the master/slave thread to control the Data Flow Operators (or

DFOs) of a row source tree in a concurrent database processing environment. Thus,

contrary to appellant's assertions, the combined system clearly teaches the claimed

features.

As to claim 15, Appellant argues the following:

"neither Hallmark nor MacLeod discloses or even remotely suggests

displaying first, second and third execution plans concurrently to enable comparison of

the execution plans."

In reply, the examiner points out that the limitations of this claim have been

addressed in the rejection of claim 11 above. Applicant's attention is directed to the

rejection of claim 11 above, as well as corresponding reply to arguments. In addition,

Hallmark/MacLeod discloses: the third execution plan of a query under a third condition (col. 8, lines 57 to col. 9, lines 5, Hallmark) and displaying the first, second and third execution plans concurrently to enable comparison of the execution plans (Fig. 9 and corresponding text, MacLeod). Furthermore, the measure of patentability is not what Hallmark or MacLeod alone teach and suggest, but what those teachings would have meant to one of ordinary skilled person in the art at the time the invention was made. In the instant case the Hallmark and MacLeod patents in the possession of an ordinary skilled artisan would have led him/her to derive a combination system that would have displayed any number of parallel execution plans as taught by Hallmark using a GUI to communicate with the user as taught by MacLeod, for the purpose of attaining a highly efficient system. The number of processes that are displayed in parallel would not have been limited in the Hallmark/MacLeod combinations.

As to claims 16-17, Appellant argues: "the Office Action makes no mention whatsoever of determining different execution plans for different version of a software module."

In reply, the examiner disagrees. The examiner specifically pointed out that Hallmark expressly disclosed the claimed features at col. 16, lines 32-42, lines 43-52 and Fig. 10B. That is the reference disclosed a determination is made clearly to execute different executions plans performed by at least two different versions of

software modules (i.e., in this case the slave set 1 and slave set 2, Fig. 10B of

Hallmark).

As to claims 18-19, Appellant argues: "The cited passage in column 16 of

Hallmark makes no mention of determining two execution plans for two arrangements of

a system."

In reply, the examiner disagrees. The examiner first points out that Appellant fails

to specify the patentable novelty of the claimed two arrangements of the claimed

system. Furthermore, Hallmark expressly disclosed the claimed features at col. 16,

lines 53-61 and associated Fig(s). 10B – 10C. Wherein, Hallmark clearly describes

different query execution environment are arranged for different execution slave thread

processing [e.g., the slave execution plan set 1 and slave execution plan set 2], such

that the initial arrangement of table queue format, table queue descriptor and table

queue descriptor contents (such as TQ ID, partitioning type, and connection code) are

arranged based on the determination of the partitioning type of the Table Queue (TQ).

As to claims 20 and 21, Appellant argues: "the cited portions of MacLeod and

Hallmark (i.e., Fig. 6 of MacLeod and Col. 17, lines 16-23 of Hallmark) do not disclose

or suggest determining a first execution plan that involves a table having a first content,

and determining a second execution plan that involves the table having a second

content

In reply, the examiner disagrees. The examiner first points out that claim 21 is

depend on claim 20 and claim 22 is depend on claim 21, Appellant arguments do not

comply with 37 CFR 1.111 (c) because they do not clearly point out the patentable

novelty which he or she thinks the claims present in view of the state of the art disclosed

by the references cited or the objections made. Further, they do not show how the

invention avoids such references or objections.

As to the arguments of claims 37 and 38, since the combined system of

MacLeod and Hallmark clearly calls for plural elements displayed side-by-side to

indicate concurrent execution of respective steps, as discussed with respect to claim 35

above, contrary to appellant's arguments, the combination of MacLeod and Hallmark is

definitely a successful one.

In section B, appellant argues: 1) "There is no teaching whatsoever in Reiner of

emulating an environment of a target system in which a parallel database system is

implemented."; 2) "A *prima facie* case of obviousness has thus not been established

with respect to claim 23. Because of the improper application of the combination of

MacLeod and Reiner against claim 23, the obviousness rejection of claim 24-27 and 29

over MacLeod, Reiner, and Carino is also defective."

In section C, appellant argues: "As discussed above in connection with claim 23,

Reiner fails to disclose emulation of a target system that includes a parallel database

system. Therefore, the hypothetical combination of Hallmark, Macleod, and Reiner fails

to disclose or suggest the subject of clam 7."

In reply, the examiner disagrees. The examiner counters by pointing out that

MacLeod clearly discloses displaying a representation of query execution plan in a

Graphic User Interface (GUI) wherein the GUI is being implemented as a user program

interface [e.g., Abstract, Fig(s). 1-9]. MacLeod fails to specifically teach this user

program interface is based on emulation data that emulates a parallel processing

database environment of a target system.

However, Reiner clearly discloses the claimed Parallel User Program Interface

(PUPI) that emulates the calling sequence and behavior of the UPI routines of a system

[e.g., col. 31, lines 1-3]. Furthermore, Reiner discloses the Parallel UPI will

decomposing a query into a plurality of sub-queries for execution, creating and

managing threads in which those sub-queries are executed concurrently, and combining

the results to emulate the result of the original query for a target system in a

client/server environment that is build upon a parallel ORACLE database management

model [e.g., col. 31, lines 1-67]. Therefore, with the combined teachings of MacLeod

and Reiner in front of him/her, an ordinary skill person in the art at the time the invention

was made would definite have been motivated to modify the UPI of MacLeod with the

emulation control technique taught by Reiner, such that the combined system will be

imitated with the upscale parallel emulation control for running on the other system

environment as well without bothering to reinvent the wheel.

Appellant presents no further arguments.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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June 4, 2004

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